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FINAL REPORT

Los Angeles unified school district
Air Pollution L.A.

THE EFFECTIVENESS OF THE LOS ANGELES CITY UNIFIED SCHOOL DISTRICT AIR POLLUTION ALERT SYSTEM

Prepared By

The Department of Environmental Quality
City of Los Angeles

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INTRODUCTION

This study analyzes the effectiveness of the Los Angeles Unified School District air pollution alert system. The investigation focuses on the notification procedures and other actions taken by the school district to avert exposure of students to unhealthy levels of oxidant, especially during periods of strenuous physical activity. It is the conclusion of this Department that the air pollution alert system is deficient both in policy and implementation.

The notification system, as it actually functions, does not provide timely and consistent communications to the schools within the District. As a result, students are often not alerted to the fact that a Stage I school health advisory has been issued, within an acceptable time frame. Thus students are not protected from the health effects of strenuous outdoor activity when alerts are called. Unfortunately, disagreements of interpretation, authority and responsibility between the several public agencies involved here, have effectively prevented a workable alert system.

Clearly the issue of School Board policy is central to resolution of inter-agency conflict. Ineffective policy cannot be tolerated when it relates to the possible health impairment of Los Angeles students. The present policy regarding school health advisories has been established by the School District administrative staff and reflects an inability to solve major conflicts. No provisions are made for problems which would arise if the program were vigorously enforced. For example, what actions and contingency plans would be necessary to accomodate school athletic programs (especially football)? What space allocation problems and solutions could be expected to deal with the need for expanded indoor seating facilities required during alerts? Answers to these and other difficult questions seem remote so long as clear identification of the issues, policy guidelines and administrative implementation

are lacking.

This study analyzes the notification system as it is intended to function, as it actually works, and also takes a brief look at the health aspects involved. Possible problem areas are brought up and discussed throughout the report. The formal study was begun on October 1, 1975 and concluded December 31, 1975 and all data and applicable rules and regulations were in effect during this period.

On May 18, 1976, the Department of Environmental Quality held a public hearing in Van Nuys, California. This administrative hearing was conducted to receive testimony on the draft report which had been prepared covering the study. This final report takes into consideration the data developed through the public hearing. It should be noted that two official representatives of the Los Angeles City Unified School District staff attended the hearing, but did not testify. We regret their decision not to participate.

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THE HEALTH ALERT SYSTEM

The first part of the system that was examined was how an alert or episode is initiated. The Southern California Air Pollution Control District declares a Stage I School and Health Advisory when a level of .20 parts per million (ppm) ozone, averaged over a period of one hour, has been reached and is predicted to continue for an additional hour or more.[1] At this point, Regulation Seven (Emergency Regulations)[2] is put into effect. Various steps are taken to make the alert known, but the one that is of importance to this study is covered in Rule 709, Sub-Section i.

Here the Air Pollution Control District (APCD) by telephone, communicates notification of the episode and "advises school officials to cancel programs which require outdoor physical activity."[3]

There are some problems at this first level of the notification system. Hourly types of readings, in the opinion of the Air Pollution Control District, are not adequate for this situation, and they feel that after the fact advisories are being issued. They would much rather return to the use of an instantaneous reading wherein an alert (episode) is called as soon as a specified level of ozone has been reached.

Air Pollution Control District representatives contend that they have no authority over the City Schools but can only make recommendations. The California Air Resources Board (ARB) Air Emergency Plan does provide, however, that "... schools should be notified so they can curtail students' participation in strenuous activities" (emphasis added), under Episode Descriptions.[4] Further on, under Episode Actions, "Advise schools that strenuous activities by students must be discontinued (emphasis added)."[5]

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[1] Appendix IV, Page 2

[2] Appendix IV, Page 2

[3] Appendix IV, Page 8

[4] Appendix V, Page 3

[5] Appendix V, Page 10

The APCD notification goes to the Security Section of the Los Angeles City School District which is in operation twenty-four hours a day. They, in turn, respond to the advisory by: 1) notifying the specific school area center offices in the zones that are affected, and 2) specifying the level of alert.

Other offices that are notified of an alert are: 1) Office of Student Health Services, 2) Office of Public Information, 3) The Superintendent's Office, and 4) Office of Auxiliary Services.

There are twelve zones in the Los Angeles City School System. Each one is equipped with its own telephone system. Area centers alert first (primary) schools and set into operation the provisions in their Emergency Communications Bulletin (Bulletin #17) of July 1, 1974. The affected primary schools are notified by their appropriate Area Centers over a two-way low-band Radio Communication System. Various steps are taken which are outlined under Part I, Sections A through F of Bulletin #17. After the two-way communication is made to the appropriate schools in the area, the telephone tree system is initiated. Second line schools receive calls over the telephone and accept the emergency message. They copy it down, repeat it, and prepare to send the message on down the line.

From the second line schools, the message is again passed down to the third line schools. As before, they receive the message and notify their key administrators. To determine that all schools have received the emergency communication message, a call-back system was established. Some schools in the area are designated as the sub-call-back school. Upon receiving the bulletin, these schools will contact the final call-back facility in the area. This last institution has the responsibility to contact the Area Superintendent's Office to verify that all of its schools have been contacted.

After the individual school has been notified of the alert, previously designated personnel in each school are notified. Usually they consist of: 1) The Principal, 2) Assistant Principals, 3) School Nurses, and 4) Physical Education Teachers. The school nurse, if available, is notified first, and in turn transmits the message to the physical education teachers at the school. The Department found that, in interviews with several nurses in high alert incident areas of the City, this does not always occur. In one case, the nurse indicated that she had never been notified.

Under the new Air Resources Board ruling,[6] teachers must

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[6] Appendix V, Page 10, B.2.

inform all students of the health advisory. The students are then to be excused from any vigorous or strenuous activities which could possibly have a detrimental effect on their health.

This is how the system ideally would work. From the Department study of the notification system, it was found that there are many unsolved problems and issues.

Some significant problems were found at the start of the system when the primary schools begin to call the second line institutions. A question which became evident: Are these first line schools asked to notify too many other schools in their areas? Some schools have the responsibility for making five to seven calls. In Area I, Poly High School has the task of notifying five second-line schools. By actually tracing their telephone tree system, the Department found that the amount of time taken to make those calls was staggering. In one particular instance, it took approximately 40 minutes just to get in touch with the five second-line schools, and considerable additional time to complete the telephone notification. Since speed is of the essence in an emergency situation, this time-lapse problem is a very important one.

There are many possible reasons why there can be a delay in getting through to the schools. Sometimes the lines are busy, other times the secretary has other work to do or people to serve in the office. However, since this emergency message is a top priority item, it should always be treated as such. It was noted, however, that less important duties were not always put aside until the school's entire quota of calls had been completed.

It would appear that school officials do not react the same way to all emergency messages. The emergency notification is also designed to process natural disaster information. Because the Stage One Alert is a Superintendent's Directive, just like a message for a Natural Disaster, treatment of the message should be the same. There appears to be a lack of urgency when dealing with air pollution emergencies.

Third-line schools are now notified and sub and final call-backs are made to the appropriate Area Centers. Since all of these schools are the last ones in the line, the time element obviously becomes critical. These schools and their officials face many of the same problems as the second-line schools. The Area Centers are concerned as to whether the messages were received all the way down the line, but apparently do not evaluate the amount of time that it takes to accomplish this.

Is the use of the radio system or an unlisted emergency number warranted at the second and third-line schools? In making this decision, cost-effective considerations must be taken into account.

In all of the schools where the alert is called, key officials are notified. How long it takes to get the message to these administrators is of particular importance; if it is not immediately, then there can be a further time delay before students are alerted that an Advisory has been issued.

Now that the Air Resources Board has reworded its regulation to "must" stop strenuous outdoor physical activities for all students at Stage One,[7] a plan should be devised to include this new contingency. Unfortunately, the School District is reportedly in possession of a legal opinion from the office of the County Counsel indicating that the word "must" as used in the Air Resources Board (ARB) regulation is permissive in nature, and not mandatory. Therefore, the ARB should further clarify this language, and obtain legal determination as to the extent of the ARB authority in this matter. Even with the assumption at this point that the present language in the regulation is permissive, it would seem appropriate for the School District to take a prudent course. To cease all outside activities in order to protect the health of children from potential harm would be an acknowledgment of their responsibilities in this matter.

Another controversial issue was uncovered during this investigation. Although the problems with the emergency notification system are significant ones, the health problems that the students face from smog are of primary concern.

Teachers, ideally, will notify all students of their rights during an air pollution alert. Students with physician's instructions must then be excused from strenuous physical activity when smog reaches the Stage One Level.

Of course, it is the responsibility of parents to take care of any medical problem their child might have. However, for various reasons, they may not be able to do this. It is well to remember, too, that there is no specific reference to particularly susceptible children in the regulation. All children are included because of the potential for harm to even healthy youngsters. Again, the prudent course is indicated.

Another question that surfaced during the study was the students' knowledge of their right to access to the school nurse for treatment of air pollution related complaints. At an Awareness Conference at Fulton Junior High School in Van Nuys on October 20, 1975, Robert Duron of the Los Angeles City Schools, said

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[7] Ibid

that if physical education teachers notice a particular problem with a student, the youngster is sent to the nurse and the complaint is investigated. If the problem is found to be a serious one, the parents are notified and it is recommended they take their child to their family physician. If this cannot be done, the student can be examined by a school doctor. However, other testimony given during this Conference indicated that students are not always well informed of their rights during smog alerts, and that many of the physical education teachers are not sensitive to these problems.

Another facet of this investigation was to determine if there is hard evidence that smog causes health problems in children at the levels set for a Stage One episode. The Lung Association has cited various medical studies that have shown the effects of smog on people. Many of these studies have concentrated on "medically sensitive" sections of the population, which include children. However, the Los Angeles School District feels that the burden of proof does not rest with them. They say that most of the studies were made from the .25 to the .50 ppm exposure levels. They maintain when documented proof can be brought forth that smog causes adverse health effects at the .20 ppm level they will consider more stringent action. Although no "conclusive" data has been gathered at the .20 ppm level, a committee of physicians from throughout the State selected by the State Department of Health concluded the .20 ppm level should be used as the point beyond which the question of health hazard does exist.

The Department of Environmental Quality believes that we cannot afford to await "conclusive proof", when the health, both long and short range, of our youth is placed in jeopardy. The vague complaints of illness experienced by some students during the smog season offer an even greater reason for a high degree of caution. The Department believes that awaiting "conclusive proof" is dangerous and irresponsible.

CONCLUSION

The investigation by the Department of Environmental Quality has disclosed serious questions regarding the notification system of the Los Angeles City Unified School District in the event of high levels of air pollution in the Los Angeles area.

Deficiencies are in two broad areas:

1. Established Board Policy
2. Existing System Implementation

In the interest of a more effective alerting system, the Department offers the following recommendations:

RECOMMENDATION 1:

The Board of Education should take a more active role in establishing air pollution episode policy.

The attitude of school staffs responsible for carrying out alert system procedures often mirror the seriousness and involvement of the policymaking body. The present Board reliance on staff recommendations, with little consideration for input from other responsible agencies and organizations, is reflected in the lack of determination often shown at the local school level. Only the Board can set the policy direction for the District which will lead to a greater margin of safety for the thousands of students in the Los Angeles City Unified School District.

RECOMMENDATION 2:

The Board of Education should establish a policy of strict conformance with State requirements, both in letter and intent.

Air pollution is a clear threat to health. It is dangerous to insist on "conclusive proof" of the effects of .20 ppm oxidant levels. The Board should not permit a gamble with the future health of the students entrusted to its care.

RECOMMENDATION 3:

The Board of Education should develop an increased level of interaction between the schools, parents, students and the medical community on the overall needs of students during air pollution episodes.

Such a step could be helpful in reestablishing credibility with the community in the handling of emergency situations.

RECOMMENDATION 4:

The Board of Education and their appropriate staffs should maintain a close relationship with air quality control agencies at the local, state and federal levels to keep informed of new information on the health effects of oxidant episodes in relation to the levels reached.

If new medical evidence shows that adverse effects on human beings begin at the .25 ppm level or higher, then the standard should be raised to the appropriate point.

RECOMMENDATION 5:

The Board of Education should adopt a modified version of the Claremont School Plan.[8] This Plan mandates that "strenuous physical activities for all students shall be discontinued." And, "that less strenuous activities should be substituted during episodes." It further states that all elementary and, where practicable, secondary students, shall be allowed to remain indoors. It also carries provisions for the cancellation of athletic events, use of certain types of motor vehicles by school personnel, and initiation of activities for the Maintenance, Operation and Transportation Departments. The Claremont Plan is a comprehensive and effective type of coverage. It was brought about by parental pressure and numerous School Board and public participation programs. The criteria for advisories and warnings at Stage One, Two and Three are the same for both districts as outlined in the Air Pollution Control District's Emergency Regulation Booklet (Regulation VII).

RECOMMENDATION 6:

Installation of two-way radios for each school in the entire system, phased over a reasonable period of time, should be considered. At present, only primary schools, area offices, and some maintenance areas have the radio system. With all schools having the use of the radio, delay would be eliminated and notification would consume a matter of minutes instead of possibly an hour or more.

The monetary outlays for purchasing these radios must be weighed by the school system against other possible improvement mechanisms for the notification, and the health of the children. Alternate methods of financing should be considered such as PTA or other community fund raising efforts for such a purchase. Priority should be given to areas of the District most heavily impacted by air pollution.

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[8] Appendix II, page 6

RECOMMENDATION 7:

As an alternative to Recommendation 6, consider installation of an unlisted emergency telephone number at each school which must be used immediately whenever a Superintendent's Directive is authorized.

Although slower than the radio network, it would still be faster than the telephone tree system now in effect. The immediate economic impact on the District of installing such a system would not be as great as with the radio units. The problem inherent in the present system is the often encountered problem of all telephone lines being tied up and the delay which ensues.

RECOMMENDATION 8:

The number of schools that a primary institution must notify should be limited to three, if a complete radio system is ruled out.

The communication process would be speeded up considerably with this type of limitation.

RECOMMENDATION 9:

During the emergency episode notification process, a log of the time should be kept by each school.

This would provide a feedback for the District on the efficiency of the emergency procedures, and verify the final notifications.

RECOMMENDATION 10:

The Superintendent designate an official and an alternate of the District administrative staff to take full responsibility for the proper implementation of the Air Pollution Alert System at the time of notification of the District by the APCD.

Designation of a responsible official should provide a substantial improvement in the effectiveness of the Air Pollution Alert System.

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